STATEMENT

By Assoc. Prof. Maya Stefanova Krastanova, MD, PhD

CHAIR OF THE EXAMINATION COMMITTEE
APPOINTED BY ORDER No P-1 09-246/13.06.2022
OF THE RECTOR OF THE MEDICAL UNIVERSITY OF VARNA

RE: The thesis of Dr Liliya Peycheva Panayotova-Ovcharova, for awarding an educational and scientific degree "Doctor of Medicine" in the field of higher education *7. Health and Sport*, professional field *7.1. Medicine*, scientific discipline *Physiotherapy, Thalassotherapy and Rehabilitation* at Prof Dr Paraskev Stoyanov Medical University in Varna, on the topic of *Comparative study of the effects of a conventional physiotherapeutic complex and high-energy laser on patients with peritendinitis of the glenohumeral joint* with thesis supervisor *Assoc Prof Dr Iliya Todorov Todorov, MD.*

Biographical data and career development

Dr Liliya Peycheva Panayotova-Ovcharova was born on 25.01.1985 in Varna.

She completed her secondary education in 2004, graduating from the First Language School in Varna. In 2010, she completed her higher education in medicine and was awarded the educational and qualification degree of Master at the Medical University of Varna. In 2017, she completed her higher education in health management and was awarded the educational and qualification degree of Master at the Medical University of Varna. She obtained qualification in Physical and Rehabilitation Medicine in 2020. Dr Liliya Peycheva Panayotova-Ovcharova was appointed as resident medical officer at UMPHAT Sveta Marina Varna EAD in 2017. In the same year she was appointed assistant to the Management Board for Thalassotherapy, Physiotherapy and Rehabilitation at the Department of Physiotherapy, Rehabilitation, Thalassotherapy and Occupational Diseases of MU Varna.

Relevance of the PhD-tesis

Peritendinitis of the glenohumeral joint is one of the most common pathologies of the shoulder. The problem affects people of both sexes of active working age, with the frequency increasing as they age. The disease also places a

significant socio-economic burden on society due to loss of working capacity for an extended period of time, increased costs of treatment and detraining of workers.

in its acute stage, when the majority of physical factors can be administered in low doses and when administered in combination or as monotherapy often give an unsatisfactory therapeutic effect. The increased risk of disability and the lack of unanimity of opinion with regard to the diagnostic and therapeutic approach to this disease make the problem topical and debatable.

In Dr Panayotova's thesis, she compares the clinical effectiveness of MLS laser radiation as monotherapy, as well as of a combination therapy with microwave diathermy and interferential current in patients with peritendinitis of the glenohumeral joint, and monitors the duration of the therapeutic effect in both methods with an analysis of the short- and long-term results.

Characteristics of the thesis submitted for review

The thesis of Dr Liliya Peycheva Panayotova-Ovcharova is submitted in **151** standard pages in eleven sections with an adequate ratio, illustrated with **33** figures, **24** tables and **15** appendices. The structure complies with the requirements set out in the Regulations to the Academic Staff Development of MU-Varna.

The thesis has the following **STUCTURE**: "Introduction" – 2 pages, "Literature review" – 40 pages, "Research goals and objectives" – 2 pages, "Materials and methods" – 10 pages, "Results" – 32 pages, "Discussion" – 12 pages, "Conclusion"- 3 pages, "Inferences" – 2 pages, "Scientific research contributions" – 1 page, "Scientific publications and communications related to the thesis" – 1 page.

The presented **BIBLIOGRAPHY** consists of **272** sources, of which 26 in Cyrillic and 246 in Latin. About 50% of the citations are from the last ten years, 25% of them from the last five years.

The topic of scientific work is related to **3** full texts publications submitted by Dr Liliya Peycheva Panayotova-Ovcharova in periodical scientific publications and 1 presentation at a national scientific forum.

The **LITERATURE REVIEW** is detailed and it presents the known methods of treatment of peritendinitis of the glenohumeral joint known so far. It also considers the possibilities for operative and conservative treatment (medicated

and with physiotherapeutic methodologies) are considered. The emphasis is on treatment with preformed physical factors, detailing the current global trends for influencing this pathology with different modalities such as monotherapy, as well as a combined action of a complex of two or more physical factors.

The purpose of the study and the tasks set are clear and specific:

At the heart of the thesis lies a clearly formulated **GOAL** – to compare the effectiveness of two methods of treatment of peritendinitis of the glenohumeral joint – with MLS laser therapy (group A) and with the combined therapy with microwave diathermy and interferential current (group B).

To implement the specified goal, the author has identified the following **TASKS:**

Study, monitoring and comparison at three points in time of the clinical effectiveness of the MLS laser radiation as monotherapy, as well as of a combination therapy with microwave diathermy and interferential current in patients with peritendinitis of the glenohumeral joint.

Evaluation and comparison of the results of the Shoulder Pain and Disability Index (SPADI) in percentages for assessing functional status and pain at three studied points in time for the patients of both groups.

Evaluation and comparison of the subjective feeling of spontaneous and palpatory pain on a Visual Analogue Scale (VAS) at three different times for the patients in both groups.

Evaluation and comparison of the influence of the treatment administered in the two treatment groups on the indicators of the functional status – goniometry of flexion, abduction and external rotation of the shoulder joint at three studied points of time.

Analysis and comparison of the short- and long-term effects of treatment on both treatment groups using six measuring indicators.

MATERIALS AND METHODS

For the purposes of the study, 76 patients that met the specified criteria were examined. To assess the functional status and pain during the follow-up, the Shoulder Pain and Disability Index (SPADI), the assessment of spontaneous and palpatory pain using the Visual Analogue Scale (VAS) and goniometry of the

glenohumeral joint (flexion, abdication and external rotation) were used. By calculating the sample size, patient randomisation in both groups and homogeneity of the mean values of the indicators studied in both groups prior to treatment, the statistical reliability of the obtained results is ensured.

The patients were evaluated at three different times: at baseline before starting treatment, after completion of the therapeutic course and on the 45th day after starting treatment.

After examining and analysing the available data on methods of treatment of peritendinitis of the glenohumeral joint, Dr Liliya Peycheva Panayotova-Ovcharova applied two methods of treatment in child groups of patients. One group was treated with Multiwave Locked System (MLS) laser therapy – group A, while the other with a combination of microwave diathermy and interferential current therapy – group B.

I have no serious critical remarks regarding the conduct and organization of the study and the statistical processing of the data.

RESULTS AND DISCUSSION

The results are in accordance with the set objectives. The PhD candidate has well synthesised and illustrated with tables and figures the distribution of patients in different groups according to gender, age and the results obtained.

The analysis of the socio-demographic characteristics of the studied individuals confirms the data from the literary review of epidemiological characteristics of the affected patients. The analysis of the baseline values of the six traceability marks shows that there is no difference between the two groups, which results in their homogeneity relative to each other.

A statistically significant effect was achieved in both therapeutic methods used. The MLS laser treatment and the combined physical complex of microwave diathermy and interferential current are suitable as a general protocol for routine clinical practice in patients with peritendinitis of the glenohumeral joint. The comparison of the results between the two methods shows the superiority of the application of MLS laser treatment in peritendinitis of the glenohumeral joint.

The discussion of the results obtained highlights their significance by comparing them with other studies in the world literature.

In conclusion, the most important results of the study are summarized, and they are well presented, visualized and analyzed.

Five clearly worded inferences have been synthesised, which provide a concise summary of the results of the study conducted and fully meet the goals and objectives set. The PhD candidate has clearly indicated three theoretical and methodological and two practical and applied contributions of the thesis to Bulgaria.

The thesis abstract is structured according to the requirements, its content complies with the thesis, **21** tables and **30** figures are presented to illustrate the results obtained from the scientific research.

The focus (in my opinion, the PhD candidate's contribution) is on increasing functional capacity and activities of daily living in this patient group.

I declare that the work of Dr. Lilia Peicheva Panayotova-Ovcharova on the topic *"Comparative study of the effects of a conventional physiotherapeutic complex and high-energy laser therapy on patients with peritendinitis of the glenohumeral joint"* has significant merits and contributions to increasing functional capacity and significantly improving the quality of life of these patients.

The thesis shows that the PhD candidate Dr Liliya Peycheva Panayotova-Ovcharova has acquired a thorough theoretical knowledge and demonstrates sufficient qualities and skills in the scientific specialty "Physiotherapy, thalassotherapy and rehabilitation".

I propose that the highly esteemed Examination Committee award Dr Liliya Peycheva Panayotova-Ovcharova the educational and scientific degree DOCTOR in the scientific specialty "Physiotherapy, thalassotherapy and rehabilitation".

05.08.2022

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